

A large number of gynandromorphs of the Heterocera are catalogued in the lists referred to, but no summary has been made. Casual inspection of odd chapters have supported the contentions (1) that no predominance exists in the side of the insect which assumes the male secondary sexual characters, and (2) that the number of each sex in a species is approximately the same.

A "Priority" Note.

By GEORGE WHEELER, M.A., F.Z.S., F.E.S.

On the last page of the December number of the *Ent. Record* we find the following observation:—"As the term 'falces' was introduced so long ago as 1905, it *has priority* over the term 'gnathos,' *which will fall*" !! (The italics and notes of exclamation are mine.) I express no opinion as to the greater suitability of one term or the other, but the implication contained in this phrase that the Law of Priority has any reference whatever to the names of anatomical sections, or indeed to anything at all except classification, cannot be too soon exposed or too emphatically contradicted, especially since the same monstrous doctrine seems to be accepted, and almost taken for granted, in the subsequent papers on the same subject by Mr. Bethune-Baker and the Rev. C. R. N. Burrows. Fortunately not even the maddest of Priority fanatics has yet succeeded in reducing us to this condition of helplessness, and we are still absolutely at liberty to choose the most suitable and descriptive nomenclature in all such cases, without giving a thought to the question which was the first in use. In point of fact it is quite unlikely that the first name used will in most cases meet with general acceptance, since later nomenclature generally means further research, and the wisdom of yesterday will often be the ignorance of to-morrow. At the same time there are two principles which should (in my opinion at least) be generally recognised: first, a word used in any branch of science by one author to designate a particular object, or part of an object (*e.g.*, "*scaphium*"), should not be available for use by another author to designate some other object, or some other part of the same object, in the same branch of science; and secondly, an author changing his nomenclature should be expected to draw attention to, and explain, the change, in such a way as to leave no doubt as to his meaning in the minds of his readers. A general regard for these two principles will obviate any probability of misunderstanding, without dragging the hateful Priority question into matters for which it was never intended, and where it could only become a bar to any rational progress even more effectively than it has already done in the domain of Classification.

The Butterflies of Lower Egypt.

By COLONEL N. MANDERS, D.D.M.S. EGYPT, F.E.S.

I had intended to publish nothing on the above subject until I had completed my tour of service in Egypt, but tenure of appointment is so uncertain in these troublous times that I think it better to put on record the few observations I have made, and if opportunity occurs to extend them afterwards.

The most useful paper I know on Egyptian butterflies is one

published by Mr. P. P. Graves in the *Entomologist's Record*, 1904, and these notes may be regarded as supplementary to that paper. Mr. Graves is in Cairo at the time of writing, having had an exciting and trying time in getting out of Constantinople at the declaration of war. We hope to forget our labours for the moment in a jaunt into the desert for the few but interesting insects that occur there. Egypt is sufficiently well known to make any remarks on the country superfluous; but one scarcely realises, until one actually sees it, the extraordinary proximity of the most fertile land probably in the globe with the most sterile; the dividing line is most strongly drawn, a yard even separating the two; the cause, of course, being the fertile alluvium brought down by the annual Nile flood. This makes it difficult to say, in many cases, what are actually desert species and what not, particularly among the Hymenoptera, as, owing to their powers of flight, they spread from cultivated districts far into the desert, being attracted at certain seasons of the year by the flora that grows in the bottom of the valleys, which meander far into the hills and which debouch on to the desert plains in close proximity to the Nile's overflow. Dragonflies also are extraordinarily wandering creatures; though found usually in the neighbourhood of water, they occur miles from it in the very heart of the desert, and some butterflies whose larvæ feed on garden plants, by means I do not attempt to explain, have thrown off their usual habits and have become entirely denizens of the desert. *Pontia daplidice* is one of these; on the continent of Europe, so far as I have observed it, this may be regarded almost as a garden insect, but I was surprised to find that the only locality, except for an occasional stray specimen, was the desert ravines miles away from cultivation of any kind. In Egypt it is a scarce insect, and the only two specimens I have taken were a pair at Wadi Hof, on March 8th, 1914. They were flying about some dried-up grass at the bottom of the ravine, which, even at this early period of the year, was very hot, and the vegetation already becoming desiccated with the heat.

Anthocharis belia, a butterfly I have not yet met with here, is also an entirely desert species.

The appearance of butterflies in Egypt, more especially those of the desert, is very largely dependent on the rains which usually fall in the winter months. These are very capricious, occasionally, perhaps once in fifteen or twenty years, there is such a heavy downfall, that the Wadis become raging torrents, banks and roads are washed away, and considerable damage is done to property.

On the other hand, no rain or a few drops only may fall for two or three years, and the average at Cairo is but a little more than an inch.

Last year, 1913-1914, the rains almost entirely failed and consequently the desert plants, which are entirely dependent on them for their spring and early summer growth, scarcely flowered at all and put forth a very scanty leaf, the result being that all through the year the desert flora was by no means in evidence. Butterflies are likewise affected by the climate. In what stage the desert butterflies pass the hot dry summer months I am unable to say, it probably varies with the species, but there is little doubt that if the winter rains fail the species emerge in very diminished numbers, and it is quite possible that under these circumstances the earlier stages take more than a

single year for their completion. My first year in Egypt fell on a lean year and consequently some species such as *Anthocharis belia* and *Melitaea deserticola*, which I might reasonably have expected to meet with, failed to put in an appearance.

Many butterflies, such as *Pyrameis cardui* and *Zizeeria lysimon*, have a succession of broods throughout the year if the seasons should be favourable. In the intense heat of summer and in the cold weather their numbers decrease or tend to disappear.

Some butterflies have a succession of broods, perhaps two or three, or a prolonged emergence in the spring from February until the end of April. *Anthocharis belemia*, for instance, is on the wing for almost six weeks in March-April, and then disappears until November or December when it becomes common again in its special localities. I have found no great difference in the underside in the spring and autumn broods. *Pontia glauconome* occurs in the same way; my dates are March 8th, April 22nd, and single specimens in December. It is strictly a desert insect, the larva feeding on *Capparis speciosa*.

It is with diffidence but with conviction that I record the genus *Teracolus* in Egypt; on April 13th in Wadi Hof near Helouan a butterfly flew past me, and which I failed to catch, but recognized as *Teracolus (Idmais) fausta* from a full acquaintance with its South Indian form *T. tripuncta*. In the heat of the day it is an extremely fast flier, but in the early morning before the sun is well up, it can be approached fairly easily, and this applies to many tropical and sub-tropical butterflies. There is no reason why it should not occur in Egypt, as it is fairly common in certain parts of Syria and in all probability in the Wadis of the Sinai peninsula.

Another butterfly I record for the first time in Egypt is *Spindasis (Aphnaeus) acamas*, a female specimen of which was captured in October, 1913, in the desert beyond Heliopolis, by Mr. Adair, of the Egyptian Agricultural Department. I tried for it unsuccessfully this year, and possibly it was a straggler. I took it many years ago at Suakin, during the campaign, and these were described by Mr. A. G. Butler as a new species, to which he gave the name *A. bellatrix*, to commemorate the circumstances under which they were taken. The type is in the British Museum. No doubt they are a geographical race of this variable insect. The specimens I took in the Punjab are very much paler.

Danais chrysippus is a common insect and of the dark African type; I was shown by Dr. Gough, of the Agricultural Department, a specimen of the form *alcippus*, the first, I believe, recorded in Lower Egypt. I am told that this form is not uncommon in the Fayum, where I have had no opportunity of collecting. This form has not been recorded south of Assouan.

Colias edusa flies in March, April and May, when towards the end of the month it disappears till autumn, then it gradually increases in numbers till the spring, when it is at its maximum. A lucerne field in April reminds one very much of an August day in England in an *edusa* year. The fields are alive with this striking insect and with *Pieris rapae* and *Pyrameis cardui*. The *helice* form of the female, or rather that named *pallida* by Tutt, is not uncommon, and I thought I had caught a record with the measurement of 62mm., until shortly after I read that Mr. Frohawk had bred one in England measuring 67mm.

My largest *edusa* female is 57mm. Among the *Lycaenidae* I may refer to *Plebeius (Lycaena) loewii* as being one of the most interesting. The male is of a most brilliant hue, reminding one of *hylas*. The female is dimorphic. In other countries than Egypt it is brown with white spots; in Egypt this form is very exceptional and I only know of one specimen. The usual form might be described as of a bright blue, rather duller than the male, but perhaps more correctly as brown covered almost completely with blue scales; the brown is almost confined to an ill-defined suffusion extending from the cell to the costa of the forewing, giving the insect an almost smudged appearance even in perfect specimens. It bears the same relation to the brown form as the blue form of the female *icarus* usual in Ireland does to the normal form in England. It is very local and only found near the foodplant, around which it flutters. The males are somewhat pugnacious, and are rather difficult to obtain in good condition. The only locality I know of near Cairo is the Mokattam Hills, where it is not uncommon in April in a space about a quarter of a mile long and about a hundred yards broad; it might therefore be easily exterminated.

A few other specimens have been noted in other parts of the Arabian desert. The foodplant is *Astragalus förskalei*, and in the female's method of oviposition we have a remarkable instance of how an instinct devoted to one purpose evidently assists the preservation of the species in another way.

After apparently aimless fluttering round a bush, she finally settles on one of the larger branches and walks down it into the centre of the plant, and selecting a leaf-bud which is quite low down and scarcely visible, deposits her egg close by its side. In what stage the hot weather is passed I am unable to say definitely, but the advantage of laying her eggs low down in the centre of the bush is threefold. The young leaves which bud in the late winter or spring, first start from the lower stems; by placing them in a sheltered position they are protected from the fierce hot winds which blow with great persistence throughout the summer; and thirdly, and quite inadvertently, they are protected from the camels, which in spite of the formidable thorns browse down the plant almost to the ground when the scanty forage in the desert becomes still further reduced by the summer heats.

It may be of interest to note that when finding a place in which to oviposit the female rotates the hindwings in the manner so noticeable in many species of the males of the *Lycaenidae* when at rest after a flight, and which has been presumed to be, and probably is, a stridulating process. Excitement is no doubt the stimulus in this case.

Virachola livia is one of those interesting butterflies in which the sexes are differently coloured; in this case the male is a bright copper and the female brown with a bluish suffusion. I have seen no trace of red in any of the numerous females I have examined, and infer that the brighter colour of the male is a later development. In coloration and habits it recalls very vividly to my mind *Zezius chrysomallus*, so frequent in old days in the neighbourhood of Colombo. The males fly vigorously round flowering shrubs in the full sunshine and the females are rather more secluded in their habits, but they do not, in any way, seek concealment, and the brighter colour of the male is probably an indication of greater and more active vigour. The larva feeds, as do other species of the genus, in the interior of pomegranates,

and does considerable damage to the crop in Egypt, and is indeed classed as a noxious insect. In other countries it is usually considered a somewhat scarce butterfly.

A butterfly very rarely taken in Egypt is *Hesperia (Pyrgus) evanida*, Butler. I have already made mention of this in the *Entomologist's Monthly Magazine* of last year but cannot give the reference and have mislaid the notes I sent on the subject. [Vol. L. (xxv.), p. 174.—H.J.T.]

I may say here that it is an entirely desert insect, and is, so far as I have observed, single-brooded in April. It is extremely difficult to catch as it has a rapid zigzag flight close to the ground, and is almost impossible to see in the flare of the desert. It settles with closed wings always on the ground and is very hard to make out amongst the rocks and sandy soil it always frequents. I have never found it far away from *Convolvulus lanatus* which I have no doubt is the foodplant. I may mention the curious fact that this plant has two sets of leaves, those grown in the spring being long, and those in early summer narrow and short.

NOTE.—Bingham's description of the male of *Plebeius lowei*, *Butterflies in India*, vol. 2, p. 343, probably taken from Beluchistan specimens, is decidedly different from Egyptian specimens; how far either agree with Zeller's original description I am for the time being unable to say.—N. M.

NOTE.—Bingham, *Butt. Ind.*, vol. ii., p. 343 (1907), *Lycaena loewii*, Zell.

♂ *Upperside*.—A beautiful purplish-blue, changing in certain lights to deep blue; veins of both fore- and hindwings jet-black, outwardly very conspicuous.

Forewing: Costa very slenderly, termen from apex to tornus much more broadly and evenly, black.

Hindwing: Costa broadly, termen a little more narrowly and dorsum broadly dusky black; posteriorly the blue ground-colour between the conspicuous black veins terminates in each interspace in an intense black spot, that contrasts strongly with the duller black on the terminal margin; cutwardly these black spots are separated from an anteciliary intense black line by a slender edging of bluish-white scales. Cilia of both fore- and hindwings white, with their basal halves dusky black.

♂ *Underside*.—Brownish-grey.

Forewing: A prominent discocellular, transverse, white encircled black spot; a transverse discal row of six comparatively black spots, edged very slenderly on the inner side, very broadly on the outer side with snow-white, the anterior five spots of the row placed in a slight curve, the upper four round, the lower spot larger, oval and obliquely placed; the lowest posterior spot of the row also large, elongate, sometimes composed of two geminate spots placed vertically under and out of line of the curve formed by the anterior five; these are followed by a broad, transverse, post-discal blackish-brown band, a terminal, catenulated transverse white band, each link of which is centered with a dusky black spot and an anteciliary, very prominent, somewhat lunular black line.

Hindwing: A transverse subbasal series of four black spots, a transverse discocellular spot and a discal series of six similar spots,

the anterior five of which are placed in a semicircular curve, vertically below which the posterior spot, which is sometimes double and geminate, is posited out of line of the curve formed by the anterior five. All these spots encircled with white, which on the outer side of the discal series of spots entirely replaces the ground-colour up to the terminal margin. On the white area are superposed a transverse, post-discal, highly curved series of connected black lunules, a sub-terminal series of black spots, one in each interspace, and an anteciliary slender black line; the posterior two spots of the subterminal row are inwardly edged with bright ochraceous and sprinkled with metallic blue scales.

Antennæ black, the club touched with white apically and the shaft ringed with the same colour; head, thorax, and abdomen black, with a little blue pubescence; beneath, the palpi, thorax and abdomen white.

Var. *chamanica*, Moore, J.A.S.B. (1884), p. 23.

The ♂ is slightly paler blue on the upperside, on the underside the markings, though small, are precisely as in *L. loweia*."—H.J.T.

NOTE.—Zeller "List of the Lepidoptera collected by Prof. Dr. Loew in Turkey and Asia," *Isis*, 1847, p. 9.

Lycaena loweii, n.sp. (Zell.).—Alis supra ♂ laetissime azureis, ♀ fuscis, maculis posteriorum tribus aurantiaco marginatis; subtus griseis punctis ocellaribus distinctis, fascia posteriorum marginali dimidia aurantiaca, maculis duabus nigris coeruleo argentatis.

Zeller, in his notes, says, "The uppersides of the wings of the male have a deeper and more brilliant blue than has *L. adonis*; the margin is very narrow black; the black scaling on the veins does not extend far from the margin; on the hindwings there are traces of blackish spots between the veins along the hind margin. Fringes brownish, at the apex of the forewings whitish.

The undersides of the males powdered light gray."—H.J.T.

Addendum to Mr. A. J. Fison's Note on *Loweia* (*Chrysophanus*) *amphidamas*, Frey.

By LILIAN M. FISON.

Loweia (*Chrysophanus*) *amphidamas* has apparently become scarce at Caux latterly. A visit to and beyond Caux on May 31st, 1913, resulted in nothing, and two more in early June, 1914, proved equally fruitless. I hope other collectors may have been more successful in their quest of this pretty butterfly.

One may say, in fact, that an outstanding feature of my two seasons' collecting—1913 and 1914—in several parts of Switzerland and Savoy—at least, as far as my experience goes—was the remarkable scarcity of "Coppers." Indeed, the only time I found any *Chrysophanidae* in anything approaching profusion was in the valley of the Arve at Chamonix, June 12th-21st, 1913, where *Heodes* (*Chrysophanus*) *virganreae* was swarming with *Chrysophanus hippothoë*, chiefly over fields of rye, the ♀s easily out-numbering the ♂s. Both races were large, and, being quite fresh, one was able to secure a nice series.

At Grindelwald, July 22nd-August 7th, 1914, these species were only very fairly common, even on the (sunny) slopes of the Faulhorn, behind Grindelwald, where *Agriades coridon*, *Hirsutina damon*, *Polyom-*